



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-8183; Directorate Identifier 2015-NM-083-AD]

RIN 2120-AA64

Airworthiness Directives; Bombardier, Inc. Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede Airworthiness Directive (AD) 2012-08-11 for certain Bombardier, Inc. Model DHC-8-400 series airplanes. AD 2012-08-11 currently requires repetitive detailed inspections for defects and damage of the retract port flexible hoses on the left and right Main Landing Gear (MLG) retraction actuator, and replacement of the flexible hoses if necessary. Since we issued AD 2012-08-11, we determined that the orientation of the retraction actuator ports must be revised to address the identified unsafe condition. This proposed AD would continue to require the actions required by AD 2012-08-11, and would require reorientation of the retraction actuator of the MLG, which would terminate the repetitive inspections. This proposed AD would also remove airplanes from the applicability. We are proposing this AD to prevent hydraulic fluid leakage in the event of a damaged retract port flexible hose failure; this condition could lead to an undamped extension of the MLG and could result in MLG structural failure, leading to an unsafe, asymmetric landing configuration.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- For Bombardier service information identified in this NPRM, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email thd.qseries@aero.bombardier.com; Internet <http://www.bombardier.com>. For Goodrich service information identified in this NPRM, contact Goodrich Corporation, Landing Gear, 1400 South Service Road, West Oakville, ON, Canada L6L 5Y7; telephone +1-877-808-7575; fax: +1-860-660-0372; Internet: <https://techpubs.goodrich.com/ContactUs>. You may view this referenced service

information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-8183; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Operations office (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Cesar Gomez, Mechanical Systems Engineer, Airframe and Mechanical Systems Branch, ANE-171, FAA, New York Aircraft Certification Office (ACO), 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7318; fax 516-794-5531.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2016-8183; Directorate Identifier 2015-NM-083-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD based on those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On April 11, 2012, we issued AD 2012-08-11, Amendment 39-17028 (77 FR 24351, April 24, 2012) (“AD 2012-08-11”). AD 2012-08-11 requires actions intended to address an unsafe condition on certain Bombardier, Inc. Model DHC-8-400 series airplanes.

Since we issued AD 2012-08-11, we determined that the left and right MLG retraction actuator ports must be reoriented and the retract port flexible hoses replaced with hydraulic tube assemblies to address the identified unsafe condition. Transport Canada Civil Aviation (TCCA), which is the aviation authority for Canada, has issued Canadian Airworthiness Directive CF-2011-14R1, dated May 21, 2015 (referred to after this as the Mandatory Continuing Airworthiness Information, or “the MCAI”), to correct an unsafe condition for certain Bombardier, Inc. Model DHC-8-400, -401, and -402 airplanes. The MCAI states:

Testing has shown that in the event of a main landing gear (MLG) retraction actuator retract port flexible hose failure, in-flight vibrations may cause excessive hydraulic fluid leakage. This could potentially lead to an undamped extension of the MLG, which may result in MLG structural failure, leading to an unsafe asymmetric landing configuration.

The original issue of this [Canadian] AD mandated the [detailed] inspection [for defects and damage] of the retract

port flexible hose and its replacement [installing a new retract port flexible hose], when required, to prevent damage to the MLG caused by undamped gear extensions.

Revision 1 of this [Canadian] AD mandates the reorientation of the MLG Retraction Actuator to prevent hydraulic fluid leakage in the event of a damaged retract port flexible hose.

This proposed AD also would remove certain airplanes from the applicability of AD 2012-08-11. Airplanes having serial number 4425 and on were modified in production and therefore the identified unsafe condition does not apply to these airplanes. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-8183.

Related Service Information under 1 CFR part 51

Bombardier, Inc. has issued Bombardier Service Bulletin 84-32-105, Revision A, dated April 24, 2015; and Service Bulletin 84-32-106, Revision A, dated April 24, 2015. The service information describes procedures to reorient the retraction actuator, which includes modifying and reorienting the retraction actuator assembly, and installing reconfigured hydraulic tube assemblies.

Goodrich Aerospace Canada Ltd. has issued Service Bulletin 46550-32-99 R2, dated February 19, 2015; and Service Bulletin 46455-32-100 R1, dated March 20, 2013. This service information describes procedures for reworking and re-identifying the retraction actuator hydraulic tube assembly and dressed yoke assembly, and reworking the retraction actuators.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

FAA's Determination and Requirements of this Proposed AD

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are proposing this AD because we evaluated all pertinent information and determined an unsafe condition exists and is likely to exist or develop on other products of the same type design.

Costs of Compliance

We estimate that this proposed AD affects 82 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection [retained action from AD 2012-08-11]	1 work-hour x \$85 per hour = \$85 per inspection cycle	\$0	\$85 per inspection cycle	\$6,970 per inspection cycle
Reorient MLG retraction actuators (new proposed action)	4 work-hours x \$85 per hour = \$340	\$0	\$340	\$27,880

We estimate the following costs to do any necessary replacements that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need this replacement:

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Replace the retract port flexible hose (retained action from AD 2012-08-11)	4 work-hours X \$85 per hour = \$340	\$713	\$1,053

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs,” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in “Subtitle VII, Part A, Subpart III, Section 44701: General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority

because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

1. Is not a “significant regulatory action” under Executive Order 12866;
2. Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
3. Will not affect intrastate aviation in Alaska; and
4. Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing Airworthiness Directive (AD) 2012-08-11, Amendment 39-17028 (77 FR 24351, April 24, 2012), and adding the following new AD:

Bombardier, Inc.: Docket No. FAA-2016-8183; Directorate Identifier 2015-NM-083-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD replaces AD 2012-08-11, Amendment 39-17028 (77 FR 24351, April 24, 2012) (“AD 2012-08-11”).

(c) Applicability

This AD applies to Bombardier, Inc. Model DHC-400, -401, and -402 airplanes, certificated in any category, serial numbers 4001 through 4424 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 32, Landing gear.

(e) Reason

This AD was prompted by test reports that showed that failure of a retract port flexible hose of a main landing gear (MLG) retraction actuator could cause excessive hydraulic fluid leakage. We are issuing this AD to prevent hydraulic fluid leakage in the event of a damaged retract port flexible hose failure; this condition could lead to an undamped extension of the MLG and could result in MLG structural failure, leading to an unsafe asymmetric landing configuration.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Retained Repetitive Inspections and Follow-on Action, with New Reference

This paragraph restates the requirements of paragraph (g) of AD 2012-08-11, with new reference to terminating action. Within 600 flight hours after May 29, 2012 (the effective date of AD 2012-08-11), do a detailed inspection for defects and damage of the retract port flexible hose of the left and right MLG retraction actuators, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-32-89, dated March 22, 2011. Repeat the inspection thereafter at intervals not to exceed 600 flight hours. If any defect or damage is found, before further flight, replace the retract port flexible hose with a new or serviceable retract port flexible hose, in accordance with the Accomplishment Instructions of Bombardier Service Bulletin 84-32-89, dated March 22, 2011. Doing the actions required by paragraph (h) of this AD terminates the inspections required by this paragraph.

(h) New Requirement of this AD: Reorient MLG Retraction Actuators

Within 6,000 flight hours or 36 months, whichever occurs first after the effective date of this AD: Reorient the MLG retraction actuator by incorporating Bombardier ModSums 4-902418 and 4-902327, in accordance with the Accomplishment Instructions of the applicable service information specified in paragraphs (h)(1) and (h)(2) of this AD. Accomplishment of the actions required by this paragraph terminates the actions required by paragraph (g) of this AD.

(1) Bombardier Service Bulletin 84-32-105, Revision A, dated April 24, 2015, including Goodrich Service Bulletin 46550-32-99 R2, dated February 19, 2015.

(2) Bombardier Service Bulletin 84-32-106, Revision A, dated April 24, 2015, including Goodrich Service Bulletin 46455-32-100 R1, dated March 20, 2013.

(i) Credit for Previous Actions

This paragraph provides credit for actions required by paragraph (h) of this AD, if those actions were performed before the effective date of this AD using the service information identified in paragraphs (i)(1) and (i)(2) of this AD.

(1) Bombardier Service Bulletin 84-32-105, dated September 28, 2012.

(2) Bombardier Service Bulletin 84-32-106, dated September 10, 2012.

(j) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, New York Aircraft Certification Office (ACO), ANE-170, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District

Office, as appropriate. If sending information directly to the New York ACO, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office. The AMOC approval letter must specifically reference this AD.

(i) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(ii) AMOCs approved previously for AD 2012-08-11 are approved as AMOCs for the corresponding provisions of this AD.

(2) Contacting the Manufacturer: For any requirement in this AD to obtain corrective actions from a manufacturer, the action must be accomplished using a method approved by the Manager, New York ACO, ANE-170, FAA; or Transport Canada Civil Aviation (TCCA); or Bombardier, Inc.'s TCCA Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(k) Related Information

(1) Refer to Mandatory Continuing Airworthiness Information (MCAI) Canadian Airworthiness Directive CF-2011-24R1, dated May 21, 2015, for related information. This MCAI may be found in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-8183.

(2) For Bombardier service information identified in this AD, contact Bombardier, Inc., Q-Series Technical Help Desk, 123 Garratt Boulevard, Toronto, Ontario M3K 1Y5, Canada; telephone 416-375-4000; fax 416-375-4539; email thd.qseries@aero.bombardier.com; Internet <http://www.bombardier.com>. For Goodrich service information identified in this AD, contact Goodrich Corporation, Landing Gear, 1400 South Service Road, West Oakville, ON, Canada L6L 5Y7; telephone +1-877-808-7575; fax: +1-860-660-0372; Internet: <https://techpubs.goodrich.com/ContactUs>. You may view this service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW., Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on July 25, 2016.

Victor Wicklund,
Acting Manager,
Transport Airplane Directorate,
Aircraft Certification Service.
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